**SRS for**

**Parking Cost Application**

## **1. Introduction**

### **1.1 Purpose**

The purpose of this document is to define the requirements for the development of a parking rates system that manages various parking options with specific rates and rules.

### **1.2 Scope**

The system will allow users to select and pay for parking based on different options such as VIP parking, short-term parking, long-term garage parking, long-term surface parking, and economy lot parking.

### **1.3 Definitions, Acronyms, and Abbreviations**

* **SRS**: Software Requirements Specification

## **2. Business Description**

### **2.1 Business Objectives**

The parking rates system aims to:

* Provide clear and competitive pricing for different parking options.
* Optimize parking space usage through efficient pricing and availability management.
* Enhance user experience by offering convenient payment options and accurate rate calculations.

### **2.2 Stakeholders**

* **Admins**: Manage parking space availability, rates, and system functionality.
* **Users**: Pay for parking based on their chosen option and duration.

### **2.3 Business Risks**

* Potential revenue loss due to inaccurate rate calculations or system downtime.
* Customer dissatisfaction resulting from unclear pricing or availability issues.

## **3. Functional Description**

### **3.1 Parking Options**

#### **VIP Parking**

* **Description**: Premium parking option with specific rates.
* **Rates**:
  + $18 per day
  + $12 for five hours or less

#### **Short-Term (Hourly) Parking**

* **Description**: Ideal for short stays with hourly rates.
* **Rates**:
  + $2.00 for the first hour
  + $1.00 for each additional 30 minutes
  + $24.00 daily maximum

#### **Long-Term Garage Parking**

* **Description**: Covered parking option for longer stays.
* **Rates**:
  + $2.00 per hour
  + $12.00 daily maximum
  + $72.00 per week (7th day free)

#### **Long-Term Surface Parking (North Lot)**

* **Description**: Outdoor parking option for longer stays.
* **Rates**:
  + $2.00 per hour
  + $10.00 daily maximum
  + $60.00 per week (7th day free)

#### **Economy Lot Parking**

* **Description**: Budget-friendly parking option for extended stays.
* **Rates**:
  + $2.00 per hour
  + $9.00 daily maximum
  + $54.00 per week (7th day free)

### **3.2 Rate Calculation**

* **Description**: Automatically calculates charges based on selected parking option and duration.
* **Features**:
  + Different rates apply based on the chosen parking option.
  + Discounts or free days applied for weekly parking in long-term options.

### **3.3 Payment Integration**

* **Description**: Integrates with payment systems to accept various payment methods.
* **Features**:
  + Secure processing of credit/debit cards or other electronic payments.
  + Confirmation of payment and issuance of parking pass or receipt.

## **4. Functional Validation**

### **4.1 Parking Option Selection**

* **Validation**: Ensure users can select only available parking options.
* **Expected Outcome**: Users are presented with available options based on current availability.

### **4.2 Rate Calculation**

* **Validation**: Verify accurate calculation of parking charges based on selected option and duration.
* **Expected Outcome**: Charges displayed and applied align with the selected parking duration and type.

### **4.3 Payment Processing**

* **Validation**: Test payment integration for secure and reliable transaction processing.
* **Expected Outcome**: Users can successfully complete payments without errors or security issues.

## **5. Data Validations**

### **5.1 Availability Management**

* **Validation**: Ensure real-time update of parking space availability.
* **Expected Outcome**: Users cannot book or pay for parking spaces that are already occupied or unavailable.

### **5.2 Duration Selection**

* **Validation**: Validate that users select a valid duration for their parking stay.
* **Expected Outcome**: Users cannot select durations that exceed the maximum allowed for each parking option.

### **5.3 Payment Security**

* **Validation**: Verify encryption and secure storage of payment information.
* **Expected Outcome**: Payment details are protected according to industry standards and regulations.

## **6. External Interface Requirements**

### **6.1 User Interfaces**

* **Parking Selection Interface**: Allows users to choose parking options, select duration, and proceed to payment.
* **Admin Interface**: Manages parking availability, rates, and monitors system functionality.

### **6.2 Hardware Interfaces**

* Compatible with payment terminals, ticket dispensers, and mobile devices for payment processing.

### **6.3 Software Interfaces**

* Integrates with web browsers (Chrome, Firefox, Safari) and backend server systems (MySQL, PostgreSQL) for data management and processing.

## **7. Non-Functional Requirements**

### **7.1 Performance Requirements**

* Response time for processing parking payments should be under 3 seconds.
* System availability of 99.5% uptime annually.

### **7.2 Security Requirements**

* Payment data encryption and compliance with PCI DSS standards.
* User authentication and authorization for admin access.

### **7.3 Legal and Compliance Requirements**

* Compliance with data protection regulations (e.g., GDPR, CCPA) regarding user information and payment data.

## **8. Other Requirements**

### **8.1 Documentation Requirements**

* User manual for parking system users.
* Technical documentation for system administrators and developers.

### **8.2 Constraints**

* Budget constraints for development, maintenance, and operational costs.